Application No. 09/751,231
Amendment dated July 28, 2003
Reply to Final Office Action of May 28, 2003
EXPEDITED PROCEDURE – EXAMINING GROUP 1639

This listing of the claims will replace all prior versions and listings of claims in the application:

LISTING OF THE CLAIMS

Claim 1 (currently amended): A device comprising a substrate having a plurality of different molecular probes attached to a surface thereof and an integrated indicator <u>having a structure</u> that exhibits a <u>detectable</u> response when exposed to a condition to which the <u>substratedevice</u> may be exposed,

wherein each different molecular probe is selected to interact with a corresponding target, and further wherein the indicator <u>structure continues to exhibit the detectable</u> response is <u>detectable</u> for at least one minute after removing the <u>indicator</u>device from the condition.

Claim 2 (canceled).

Claim 3 (amended): The device of claim 1, wherein the indicator response to the condition is detectable for at least 1 hour after removing the substrated evice from the condition.

Claim 4 (original): The device of claim 3, wherein the indicator response to the condition is substantially permanently detectable.

Claim 5 (original): The device of claim 1, wherein the condition is an environmental condition that allows for target-probe interaction.

Claim 6 (original): The device of claim 5, wherein the environmental condition is a predetermined temperature.

Claim 7 (original): The device of claim 6, wherein the predetermined temperature is a maximum temperature.



'Application No. 09/751,231
Amendment dated July 28, 2003
Reply to Final Office Action of May 28, 2003
EXPEDITED PROCEDURE – EXAMINING GROUP 1639

Claim 8 (original): The device of claim 7, wherein the maximum temperature is about 60°C to about 90°C.

Claim 9 (original): The device of claim 6, wherein the predetermined temperature is a minimum temperature.

Claim 10 (original): The device of claim 9, wherein the minimum temperature is about 35°C to about 45°C.

Claim 11 (withdrawn): The device of claim 5, wherein the environmental condition is a predetermined water content.

Claim 12 (withdrawn): The device of claim 5, wherein the environmental condition is a chemical concentration.

Claim 13 (withdrawn): The device of claim 12, wherein the chemical concentration is a formamide concentration,

Claim 14 (withdrawn): The device of claim 12, wherein the chemical concentration comprises a pH of about 5 to about 9.

Claim 15 (withdrawn): The device of claim 12, wherein the chemical concentration is a salinity of about 0.01 molar to about 8 molar.

Claim 16 (withdrawn): The device of claim 1, wherein the condition is the presence of a chemical moiety that affects the target-probe interaction.

Claim 17 (withdrawn): The device of claim 16, wherein the chemical moiety hinders the target-probe interaction.





'Application No. 09/751,231
Amendment dated July 28, 2003
Reply to Final Office Action of May 28, 2003
EXPEDITED PROCEDURE – EXAMINING GROUP 1639

Claim 18 (withdrawn): The device of claim 16, wherein the chemical moiety enhances the target-probe interaction.

Claim 19 (original): The device of claim 1, wherein the indicator response is optically detectable.

Claim 20 (original): The device of claim 19, wherein the indicator response is fluorescently detectable.

Claim 21 (original): The device of claim 1, wherein the indicator response is magnetically detectable.

Claim 22 (original): The device of claim 1, wherein the indicator response is electrically detectable.

Claim 23 (original): The device of claim 1, wherein the indicator response is machine detectable.

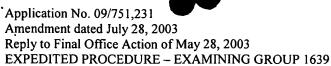
Claim 24 (original): The device of claim 1, wherein the response occurs after exposure of the indicator to the condition for at least a predetermined period.

Claim 25 (original): The device of claim 24, wherein the predetermined period is about 1 minute to about 28 hours.

Claim 26 (original): The device of claim 25, wherein the predetermined period is about 5 to about 10 hours.

Claim 27 (original): The device of claim 26, wherein the predetermined period is about 6 to about 8 hours.





Claim 28 (original): The device of claim 1, wherein the molecular probes are biomolecular.

Claim 29 (original): The device of claim 28, wherein the molecular probes are nucleotidic.

Claim 30 (original): The device of claim 28, wherein the molecular probes are peptidic.

Claim 31 (original): The device of claim 28, wherein the molecular probes are oligomeric.

Claim 32 (original): The device of claim 28, wherein the molecular probes are polymeric.

Claim 33 (original): The device of claim 1, wherein the molecular probes are arranged in an array on the substrate surface.

Claim 34 (original): The device of claim 33, wherein the array comprises at least about 10 probes per square centimeter of substrate surface.

Claim 35 (original): The device of claim 34, wherein the array comprises at least about 50,000 probes per square centimeter of substrate surface.

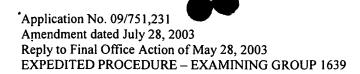
Claim 36 (original): The device of claim 35, wherein the array comprises at least about 200,000 probes per square centimeter of substrate surface.

Claim 37 (original): The device of claim 36, wherein the array comprises at least about 1,000,000 probes per square centimeters of substrate surface.

Claim 38 (original): The device of claim 1, wherein the substrate further contains machinereadable information.

Claim 39 (original): The device of claim 38, wherein the substrate further comprises a medium on which information may be written.





Claim 40 (original): The device of claim 39, wherein the medium is selected to contain electronic information.

Claim 41 (original): The device of claim 39 wherein the medium is noncoplanar with respect to the surface on which the molecular probes are attached.

Claim 42 (original): The device of claim 41, wherein the medium is writable from a surface that opposes the surface on which the molecular probes are attached.

Claim 43 (original): The device of claim 1, wherein the substrate comprises a disk.

Claim 44 (original): The device of claim 1, wherein the substrate comprises a tape.

Claim 45 (original): The device of claim 1, wherein the substrate comprises a well plate.

Claim 46 (original): The device of claim 1, wherein the substrate comprises a slide.

Claim 47 (original): The device of claim 1, wherein the targets represent portions of a single molecule.

Claim 48 (original): The device of claim 1, wherein the targets represent portions of single cell.

Claim 49 (original): The device of claim 1, wherein the integrated indicator comprises nucleotidic material.

Claim 50 (withdrawn): A device comprising a substrate having a plurality of molecular probes attached to a surface thereof and a plurality of different integrated indicators, each indicator selected to exhibit a response when exposed to one of a plurality of conditions to which the substrate may be exposed, wherein the molecular probes are selected to interact with



Application No. 09/751,231

Amendment dated July 28, 2003

Reply to Final Office Action of May 28, 2003

EXPEDITED PROCEDURE – EXAMINING GROUP 1639

corresponding targets, and further wherein the response is detectable for at least one minute after removing the indicator from the condition.

Claim 51 (withdrawn): The device of claim 50, wherein the molecular probes are selected to interact with corresponding targets when exposed to at least one of the plurality of conditions.

Claim 52 (withdrawn): The device of claim 51, wherein the molecular probes are selected to interact with corresponding targets when exposed to all of the conditions.

Claim 53 (withdrawn): The device of claim 52, wherein the molecular probes are selected to interact with corresponding targets when exposed to all of the conditions simultaneously.

Claim 54 (currently amended) A device comprising a substrate having a plurality of nucleotidic molecular probes attached to a surface thereof and an integrated indicator <u>having a structure</u> that exhibits a <u>detectable</u> response when exposed to a condition to which the <u>substratedevice</u> may be exposed, wherein the nucleotidic molecular probes are selected to interact with corresponding targets, and further wherein <u>the indicator structure continues to exhibit the detectable</u> response is detectable for at least one minute after removing the <u>indicator device</u> from the condition.

Claim 55 (original): The device of claim 54, wherein the condition represents a hybridization condition between the probes and targets.

Claim 56 (currently amended): A device comprising a substrate having a surface adapted for attachment to a plurality of molecular moieties and an integrated indicator <u>having a structure</u> that exhibits a <u>detectable</u> response when exposed to a condition, wherein the <u>indicator structure</u> continues to exhibit the <u>detectable</u> response is <u>detectable</u> for at least one minute after removing the <u>indicatordevice</u> from the condition.

Claim 57 (original): The device of claim 56, wherein the condition is suitable for attaching the plurality of molecular moieties to the substrate surface.



Application No. 09/751,231
Amendment dated July 28, 2003
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EXPEDITED PROCEDURE – EXAMINING GROUP 1639

Claim 58 (original): The device of claim 56, wherein the condition is not suitable for attaching the plurality of molecular moieties to the substrate surface.

Claim 59-80 (canceled).

Claim 81 (new): The device of claim 6, wherein the indicator structure is nucleotidic.

Claim 82 (new): The device of claim 81, wherein the indicator structure is comprised of a single-stranded oligonucleotide having defined sequences prehybridized to a labeled target.

Claim 83 (new): The device of claim 81, wherein the indicator structure is comprised of a double-stranded oligonucleotide having one labeled strand.

Claim 84 (new): The device of claim 6, wherein the indicator structure is comprised of wax.

